Online Research @ Cardiff

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: https://orca.cardiff.ac.uk/id/eprint/94446/

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Flynn, Anthony ORCID: https://orcid.org/0000-0002-1755-7986 and Davis, Paul 2016. Firms' experience of SME-friendly policy and their participation and success in public procurement. Journal of Small Business & Enterprise Development 23 (3) , pp. 616-635. 10.1108/JSBED-10-2015-0140 file

Publishers page: http://dx.doi.org/10.1108/JSBED-10-2015-0140 <http://dx.doi.org/10.1108/JSBED-10-2015-0140>

Please note:
Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See http://orca.cf.ac.uk/policies.html for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.

information services
gwasanaethau gwybodaeth

Firms' experience of SME-friendly policy and their participation and success in public procurement

Abstract

Purpose – The purpose of this study is to test the relationship between firms' experience of SME-friendly policy and their participation and success in public procurement.

Methodology – Hypothesised relationships between SME-friendly policy and three outcome variables - frequency of tendering, success rate in public contract competitions, and commercial orientation towards the public sector - are tested using survey data from 2755 SME respondents.

Findings – SME-friendly policy is found to be significant in explaining success rates and commercial orientation towards the public sector marketplace. It is not significant in explaining frequency of tendering.

Originality – This study puts forward and tests an original model of SME-friendly procurement policy and its associated outcomes for firms. It develops a comprehensive 16-item instrument to measure SME-friendly procurement policy. It uses SMEs as research informants instead of public buyers.

Limitations – The context for the study is Ireland. However, given institutional similarities in national public procurement regimes, particularly among EU Member States, the findings have relevance beyond the Irish context. The research design is cross-sectional and so does not allow for any causal claims to be made.

Keywords SMEs, public procurement, policy, tendering, contracts.

Paper type Research paper

Introduction

Small and medium-size enterprise (SME) involvement in the marketplace for public sector contracts is an area that pre-occupies policy makers and elected representatives in the EU, the US, and beyond. The reason for this is simple. All the evidence shows that SMEs struggle to compete in public tendering competitions and are under-represented as public sector suppliers (Cabinet Office, 2013; GHK, 2010; PwC, 2014). Without doubt, something akin to market failure exists. This is neither desirable nor tenable if governments are serious about fostering dynamic economies with SMEs as the engines of growth, innovation and employment creation (Glover, 2008; Preuss, 2011; Sorte Junior, 2016). Accounting for, on average, 12.8 per cent of GDP and 29 per cent of total government expenditure across developed economies, the public procurement market is too commercially important for SMEs to be excluded from (OECD, 2013). Not only does SMEs' under-representation limit their growth prospects and opportunities for diversifying their customer base, it also means that the supply marketplace is not as competitive as it could be (European Commission, 2008). Public sector organisations lose out as a result, with repercussions for efficiency in public administration and the effective delivery of public services.

There is no single cause of SMEs' experienced difficulties in public procurement. Rather, myriad environmental, procedural and organisational factors combine to stymie their involvement and chances of success (Loader, 2013). Many of the problems are systemic, however, which is why governments feel impelled to take corrective action. This has resulted in the introduction of SME-friendly procurement policies at national and supranational levels; for example, the *European Code of Best Practices Facilitating Access by SMEs to Public Procurement Contracts* (European Commission, 2008). As the title implies, it and equivalent policies found outside the EU are designed to make it simpler for SMEs to access and then compete for public sector contracts. For all the attention surrounding them, surprisingly little is known regarding the effectiveness of these policies in meeting their stated aims. In particular, questions over whether they lead SMEs to tender more often and win more contracts have gone largely unanswered. A recent exception is Reis and Cabral (2015). Their investigation of procurement preference programmes in Brazil found that SMEs benefited as a result of this type of intervention, measured by their involvement and success rates in contract competitions. Apart from preference programmes, which are

disallowed in EU Member States, it remains to be seen what impact policy is having. This represents a significant research gap.

Several reasons explain why research on this topic has not been more forthcoming. Inadequate oversight and management of SME-friendly procurement policy is one. While the majority of OECD countries have taken steps to assist SMEs in public procurement, only a minority actively monitor and evaluate their policies (OECD, 2013). A related issue is that government objectives for SMEs in public procurement can lack specificity, which does not lend itself to conducting policy assessments (Nicholas and Fruhmann, 2014). Difficulty in securing survey access to populations of public buyers and SME suppliers is another contributory factor. Allowance must also be made for the fact that public procurement is a relatively new field of academic inquiry (Snider and Rendon, 2008). Procurement-related research has also tended to prioritise large firms over SMEs (Morrissey and Pittaway, 2004). Finally, researchers may be guilty of assuming that policy automatically translates into practice and delivers on its promises as those who formulated it envisaged. Yet as Murray (2012) asserted in a recent critique of public procurement reforms in the UK, just because elected representatives say change will happen does not mean it will. To paraphrase Bennett (2008), creating a SME-friendly enterprise environment is easier said than done.

The aim of this study is to shed light on SME-friendly procurement policy as it is playing out in practice. It does so by investigating firms' reported experience of policy and how this, in turn, is related to their participation and success in public contract competitions. While the context for the investigation is Ireland, the relevance of the findings extends much further owing to similarities in regulatory-policy frameworks governing public procurement across developed economies (see, for example, OECD, 2013). This is especially true in the EU where the European Commission acts as the primary institutional rule setter in the public procurement field for all Member States. The paper is organised into five sections. The first section discusses SMEs' under-representation as public sector suppliers and the policy actions governments are taking to redress this imbalance. The second section sets out a hypothetico-deductive model to be tested. The third section describes a survey-based, cross-sectional research design. The fourth section reports the empirical findings. The final section discusses

the contribution of the study to scholarship as well as its implications for practice. It concludes with acknowledgement of the study's limitations and recommendations for how this line of inquiry can be taken forward.

Literature review

Public procurement is understood as having a key role to play in supporting the SME sector specifically and, at a more overarching level, fostering a dynamic enterprise environment (Preuss, 2011; Sorte Junior, 2016). Contemporary enterprise policy bears this out, with procurement featuring prominently as a policy lever in both the EU *Small Business Act 2008* and the US *Small Business Act*. In concrete terms, public sector contracts offer SMEs stable and predictable sources of demand, payment certainty and reputational enhancement (Cabras, 2011; Fee *et al*., 2002; Loader, 2005); all of which enables them to build for the future by investing in their organisational resources and human capital. Interacting with the public sector can also spur SMEs to professionalise their operations (Pickernell *et al*., 2013b) and engage in product and process innovation (Georghiou *et al*., 2014). Nor are the benefits one-way. SME involvement adds to the quantity and quality of competition in the supply marketplace, yielding lower bid prices and improved choice for public sector organisations (European Commission, 2008). Equally, it serves the goal of having a sustainable domestic business sector that creates employment, embeds itself in the local economy and contributes to national prosperity.

In highlighting its role in supporting SMEs, we must not lose sight of the fact that securing goods and services at the most economically advantageous terms available and in accordance with national law remains the overriding priority in public procurement. As research shows, this is ultimately what guides public buyers' calculus (Cabras, 2011; Loader, 2007). With some justification, scholars have argued that facilitating SMEs in public procurement is not always feasible when financial pressures and legal constraints are taken into account (Erridge and McIllroy, 2002; Glover, 2008; Pickernell *et al*., 2011). To illustrate, one strategy that is increasingly being deployed across the public sector is the use of centralised or aggregated purchasing, particularly for standardised products and services. While the economies of scale from this approach can result in substantial cost savings, process efficiencies, and improved public service delivery outcomes (Sorte Junior, 2013), it does come at the expense of SME involvement in contract competitions. Using public procurement

as a lever for supporting the SME sector is, therefore, not without its own tensions and contradictions. In some situations, the public interest may even be better served by privileging price and efficiency considerations over the inclusion of small firms.

SMEs' difficulties in public procurement

Stated already, it is in the interests of the purchasing organisation and the economy as a whole that SMEs are active in the public contracts marketplace. Against this, SMEs are consistently shown to be dissatisfied with the culture and processes of public procurement (Loader, 2013) and rate supplying the private sector more favourably (Purchase *et al*., 2009). The available evidence leaves little doubt that SMEs are under-represented as public sector suppliers. In the first instance, they appear less able or willing to compete for public contracts. In a 2012 survey of almost 5000 UK SMEs only 10 per cent had bid for a contract in the previous 12 months (Department for Business Innovation and Skills, 2013). Small firms have also been found to be only half as likely as large firms to use the internet to access tender documents or sell to public sector organisations (Office for National Statistics, 2012). In terms of success, the most recent EU-wide assessment puts SMEs' share of above-threshold contracts[1] at 29 per cent – only half that of their GDP contribution; although their share of below-threshold contracts is estimated to be in the region of 58-59 per cent (PwC, 2014). The situation is no better at national level. According to the most recent estimates from the UK government, only 10.5 per cent of the value of direct public procurement expenditure and 9.4 per cent of indirect expenditure goes to SMEs (Cabinet Office, 2013).

SME-friendly policy in public procurement

SMEs' under-representation in public procurement has led governments to adopt policies to remedy the problem. In a recent OECD assessment, 29 of 32 countries surveyed had instituted reforms to better facilitate SMEs in tendering, and 11 of these had enacted policies or made specific legislative provisions (OECD, 2013). In the EU equality of opportunity for SMEs in public procurement, rather than equality of outcome, serves as the guiding principle; and all EU Member States are legally bound

[1] 'Above-threshold contracts' refer to Supplies and Services contracts valued at €134,000 (or €207,000 for public sector entities other than central government) and Works contracts valued at €5,186,000. Such contracts must be advertised in the Official Journal of the European Union (OJEU) and procured in accordance with EU Procurement Directives.

by it under Directive 2014/24/EU. EU procurement policy is targeted at levelling the playing field for SMEs, leading to a more inclusive and competitive marketplace. Primarily, this involves tackling the barriers that inhibit SMEs from competing for public contracts in the first place (European Commission, 2008). By contrast, the US and non-EU countries tend to employ a mix of facilitative policy measures as well as preference programmes and set-asides for domestic SMEs (Kidalov and Snider, 2011; Reis and Cabral, 2015). Thus, in addition to taking steps to facilitate SME involvement, they also resort to forms of 'positive discrimination' that guarantee SMEs a share of public contracts. In this study the focus is on facilitative, non-discriminatory policy measures. A detailed account of how these can promote SME participation and success in public procurement is set out in the next section.

Model development

The model presented in this section posits relationships between SME-friendly policy, as experienced by SMEs themselves, and (i) frequency of tendering (ii) success rate in contract competitions and (iii) commercial orientation towards the public sector (see Figure I). The relationships are predicated on what policy explicitly sets out to achieve, which is to have more SMEs competing for and winning public sector contracts. There is an outstanding need for reliable, survey-based evidence on SME-friendly procurement policy and its associated outcomes for firms; hence the rationale for the deductive model put forward here.

SME-friendly policy and frequency of tendering

SME-friendly policy contains various measures designed to make it easier for small firms to tender for public sector contracts. First among these is getting buyers to publicly advertise current and future supply opportunities on designated government contracts websites. Doing so enables SMEs to search for, identify and respond to requests for tender or quotation quickly and efficiently. This is important as lack of awareness over contract opportunities can prevent SMEs from getting involved in public procurement (Fee *et al*., 2002; Loader, 2005; Ringwald *et al*., 2009). Allied to open advertising of public contracts is the need for proactivity and professionalism on the part of buyers in researching their marketplace and engaging with suppliers (Cabras, 2011; Georghiou *et al*., 2014). Such actions put public contracts on the radar of smaller and newer firms and stimulate their interest in competing for them.

Reducing the administrative burden and transaction costs involved in preparing and submitting a bid is also a universal theme of SME-friendly policy. The transaction costs of tendering can be prohibitive to small firms, averaging £3200 in the EU and £5800 in the UK for a routine contract (Centre for Economic and Business Research, 2013). Measures to reduce these costs, whether in the form of buyers using standard tender documentation, enabling the e-submission of tenders, or allowing applicants to self-declare their financial capacity and insurance cover should increase SMEs' willingness to tender.

The average size of public contracts is known to pose challenges for firms that have limited organisational capacity and human resource availability (GHK, 2010; Loader, 2013). SME-friendly policy advocates steps that buyers should take to tackle this particular barrier. These include dividing contracts into lots, facilitating consortium bidding, and making framework agreements inclusive of small suppliers. By acting on these measures buyers create business opportunities for SMEs that were previously beyond their capacity. Proportionality in the use of qualification criteria, particularly around financial capacity and insurance cover requirements, is also deemed to be a determinant of whether small firms get to compete for public contracts (Ringwald *et al*., 2009). Where qualification criteria are applied in a proportionate manner small firms are, at the very least, not precluded from tendering. Other measures, such as the provision of feedback on failed tenders, provide valuable learning points and insights for inexperienced firms and reduce their levels of uncertainty (Flynn *et al*., 2013; Ramsden and Bennett, 2005). Advice of this kind may be the difference between firms persisting with public sector tendering or quitting altogether. Overall, to the extent that firms experience SME-friendly policy support measures, they should feel able and willing to tender for public sector contracts. This gives the following hypothesis:

H1 SMEs' experience of policy support measures is positively associated with frequency of tendering.

SME-friendly policy and success rate in public contract competitions

As well as enabling SMEs to tender more often, policy support measures can bolster their probability of success in contract competitions. Principally, this is because SME-friendly policy helps to 'level the playing field' in public procurement and ensures that its practices and procedures do not unduly disadvantage smaller and younger suppliers

(Kidalov and Snider, 2011; Nicholas and Fruhmann, 2014). Given the chance to compete, there is reason to believe that SMEs will acquit themselves ably. For a start, they are well placed to offer competitive pricing arrangements on account of their minimal administrative overheads and streamlined operations (NERA Economic Consulting, 2005). This is advantageous as cost is a key criterion for public buyers when deciding on choice of supplier. Moreover, public buyers are under increasing pressure to realise best value for money (BVM) across the supply chain (Dimitri, 2013). Apart from competitive pricing, many SMEs possess the niche skills, innovativeness and versatility that large purchasing organisations prize in their suppliers (Woldesenbat *et al*., 2011). Public buyers are on record as acknowledging this to be the case (Loader, 2007). Coupled with these attributes is SMEs' reputation for 'going the extra mile' to satisfy customer needs (NERA Economic Consulting, 2005) and their proven ability to generate economic value-added for large organisations (Ngugi *et al*., 2010). Summarising, SMEs can be genuine contenders for public contracts provided they are given the opportunity to compete. SME-friendly policy measures are designed to give them every practical opportunity to compete. This gives the following hypothesis:

H2 SMEs' experience of policy support measures is positively associated with success rate in public contract competitions.

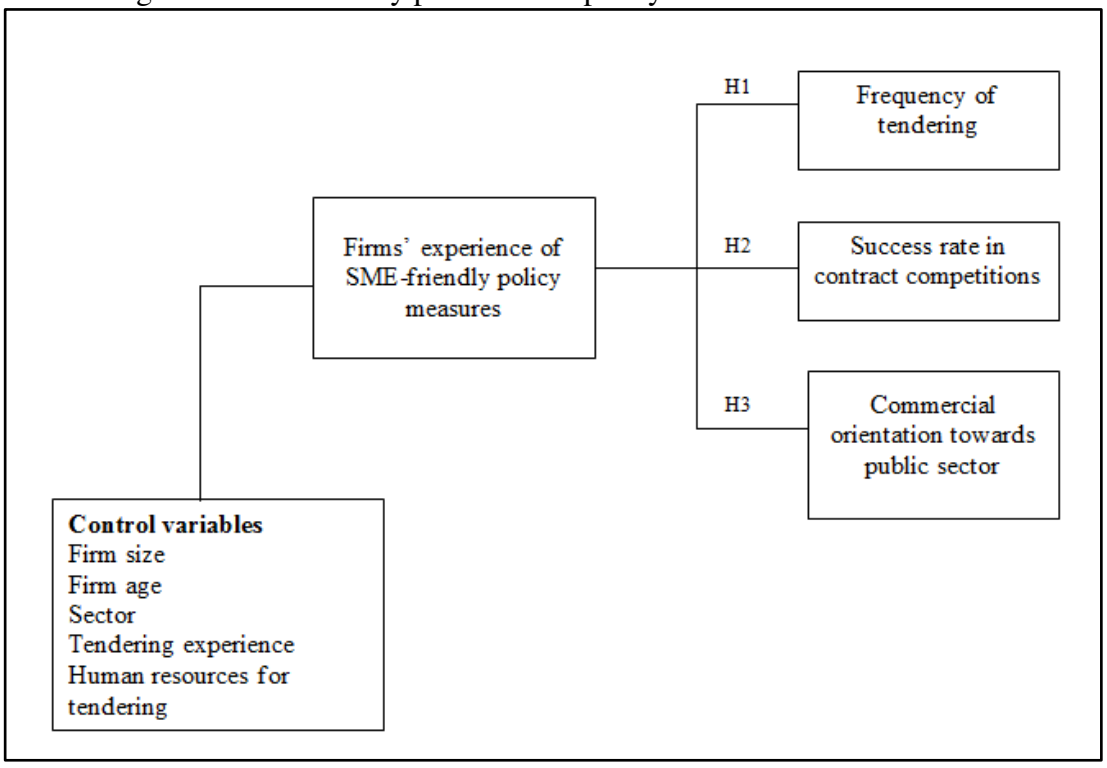
SME-friendly policy and commercial orientation towards the public sector

The third hypothesised relationship is between SME-friendly policy and commercial orientation towards the public sector. The rationale for this proposed relationship is as follows. SME-friendly policy measures are designed to facilitate smaller and younger firms to compete for public sector contracts (Department of Finance, 2010). Such measures, if acted on by public buyers, widen SME access to contract competitions, ensure that eligibility and evaluation criteria are proportionate to the nature of the contract, reduce the transaction costs of compiling a tender, and match supply requirements to the organisational capacity of smaller firms where at all feasible (Flynn and Davis, 2015). Taken together, this should help to tackle the systemic bias in favour of large firms and re-balance the competitive landscape in public procurement (Anglund, 1999). From this, public contracting should become relatively more attractive for SMEs and even rival supply opportunities in the private sector;

something which is currently not the case (Purchase *et al*., 2009). Moreover, the projected cost-benefit ratio of competing for public contracts should become more favourable for SMEs (Flynn and Davis, 2016). The anticipated effect of this improvement in circumstances is that SMEs will allocate more of their time, resources and strategic planning activity to competing for and winning public contracts. In other words, they will develop a greater commercial orientation towards the public sector marketplace; evident, for example, in the proportion of their revenue attributable to contracting with public sector organisations. This gives the following hypothesis:

H3 SMEs' experience of policy support measures is positively associated with commercial orientation towards the public sector.

Figure I. SME-friendly procurement policy and associated outcomes



Methodology

Independent variable

The independent variable in this study is firms' experience of SME-friendly policy in public procurement. To measure it firms were asked if it is their experience that SME-friendly policy is being acted on by public buyers. Measurement is in binary terms: yes/no. Hoejmose *et al*. (2013) adopted the same stance when investigating the

implementation of sustainable procurement policies, albeit with buyers as survey respondents. A total of 16 SME-friendly policy measures are captured in this way. These are taken from Irish government policy, which is discussed in more detail under the sub-section, *Research context*. The 16 policy recommendations are listed in Table I. They correspond to six areas that are universally germane to facilitating SME participation in public procurement (i) improving contract visibility (ii) alleviating the administrative burden of tendering (iii) tackling the mismatch between contract size and SMEs' organisational capacity (iv) ensuring qualification and assessment criteria are proportionate to the nature of the contract (v) displaying openness to new suppliers and supply solutions and (vi) reducing SMEs' information deficit in public procurement.

Firms' reported experience of each of the 16 policy measures is also included in Table I. From the perspective of SMEs, some measures are being put into practice more than others. Measures to alleviate the administrative burden associated with tendering are reported on positively. To illustrate, 72 per cent agree that public buyers promote the online submission of tenders and 67 per cent agree that public buyers use standardised tender documentation and templates. By contrast, respondents are negative in their assessment of measures concerning a more open attitude to contracting with new suppliers. Less than 30 per cent believe that public buyers engage with the supply marketplace prior to issuing a formal request for tender and only 38 per cent had experience of public buyers being willing to accept reasonable variants to tender specifications. Similar negative assessments are made in respect of tackling contract size barriers and narrowing SMEs' information deficit. For instance, only 34 per cent agree that public buyers devise framework agreements with SMEs in mind while only 38 per cent believe that written feedback for unsuccessful tenderers is provided as a matter of routine.

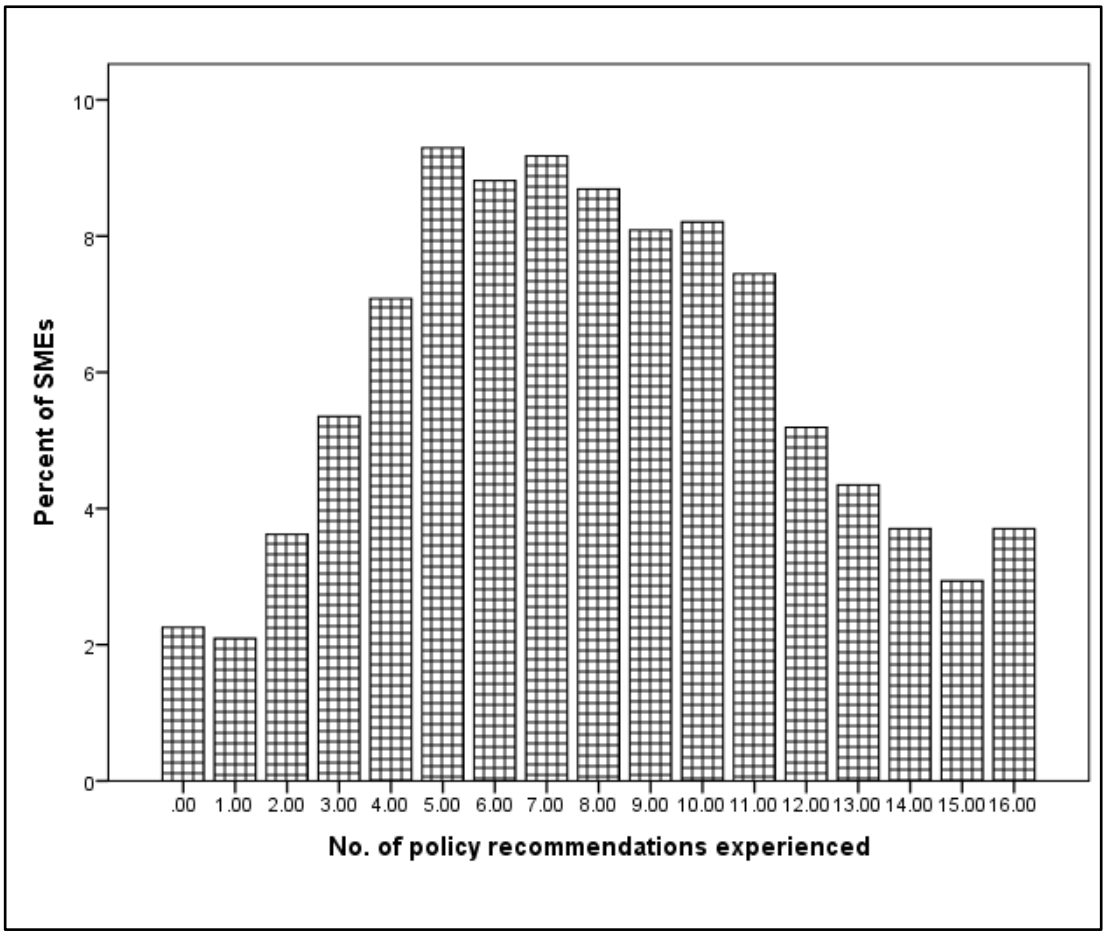
<Insert Table I here>

The 16 measures are summed to create a composite variable of each firm's experience of SME-friendly policy. Reported experience of a policy measure is given a value of 1. Non-experience is given a value of 0. All 16 policy measures are weighted equally. This produces a 0-16 scale. The mean score on this scale is 7.97 (std. dev. 3.95). The median score is 8. The minimum score is 0 and the maximum score is 16. A breakdown

of respondents' scores is provided in Table II. It shows wide variation in their reported experiences. Approximately 2.3 per cent claim that they have not experienced any of the 16 SME-friendly policy measures. Many more report either a low (18.2 per cent) or low-moderate (36 per cent) experience of SME-friendly policy. Against this, 28.9 per cent can be classed as having a moderate-high experience of SME-friendly policy, 10.9 per cent having a high experience, and 3.7 having experienced all 16 recommendations. The distribution of scores is positively skewed ($z = 2.84$), signifying a clustering of firms towards the low-moderate range of the scale (see Figure II). As asserted earlier, exposure to SME-friendly policy is expected to be linked to SME participation and success in public contract competitions. These outcome variables are discussed next.

<Insert Table II here>

Figure II. Distribution of scores for firms on the SME-friendly policy scale



Outcome variables

There are three outcome variables in this study. These are (i) frequency of tendering (ii) success rate in public contract competitions and (iii) commercial orientation towards the public sector (see Table III). Similar outcomes variables have been used in recent investigations into SME participation in public contracting (Flynn and Davis, 2016; Flynn *et al*., 2015; Reijonen *et al*., 2014). Here frequency of tendering is measured as the total number of public sector tenders that a SME submitted throughout 2014. Success rate is measured as the percentage of public contracts tendered for in 2014 that a SME succeeded in winning. Lastly, commercial orientation towards the public sector is measured in terms of the proportion of total revenue that came from public contracting over the course of 2014.

Controls

Five organisation characteristics are controlled for in this study. These are (i) firm size (ii) firm age (iii) sector (iv) tendering experience and (v) human resource availability for tendering. Their measurement, operationalisation and statistical descriptors are

also included in Table III. Firm size is controlled for as research shows that larger firms tender more often and enjoy higher success rates in public contract competitions (Flynn and Davis, 2016; Flynn *et al*., 2015; GHK, 2010; Karjalainen and Kemppainen, 2008; Temponi and Cui, 2008). Firm size is approximated by number of employees. In line with EU classification standards, three size ranges are used for measurement purposes: 1-9 employees (micro); 10-49 employees (small); 50-249 employees (medium). The second control variable is age. Evidence adduced by Pickernell *et al*. (2013a) and Reijonen *et al*. (2014) suggests that established firms are more active in the public sector marketplace. Age is measured as the number of years a firm has been trading. Sectoral effects have also been linked to SME participation and success in public procurement (Pickernell *et al*., 2011; PwC, 2014). Sector is measured by reference to four categories: construction; manufacturing; services; and other industries. Tendering experience is believed to support firms in identifying, competing for and winning public contracts. It is measured on a scale of 1-100 years. The last control variable is human resource availability for tendering. Studies show that human resource availability determines a firm's ability to respond to growth opportunities generally (Matlay, 2000) and public sector opportunities specifically (Karjalainen and Kemppainen, 2008). It is measured as the number of employees ordinarily involved in compiling a tender.

<Insert Table III here>

Research context

The Irish marketplace for public sector contracts serves as the research context. As with other EU Member States and OECD countries, Ireland has enacted policies and embarked on initiatives over the last number of years to promote SME involvement in public procurement. In 2010 these were brought together under a single policy guidance document entitled *Facilitating SME Access to Public Procurement* (Department of Finance, 2010). It sets out a series of 'positive measures' that all public sector employees with responsibility for procurement are obliged to follow. The 16 policy measures under investigation in this study constitute the sum total of these 'positive measures'. *Facilitating SME Access to Public Procurement* applies to every level and category of the public sector, including local government, central government, state agencies, semi-state and utility companies, hospitals, schools and

universities. While public buyers are required to act on the policy set forth, they must still ensure that 'public sector purchasing is carried out in a manner that is legal, transparent, and secures optimal value for money for the taxpayer' (Department of Finance, 2010, p. 1). SME-friendly policy, while important, does not take precedence over the existing body of laws and guidelines governing public purchasing.

SME-friendly procurement policy in Ireland is derived from EU policy in this area, namely: the *European Code of Best Practice Facilitating Access by SMEs to Public Procurement Contracts* (European Commission, 2008). As well, the degree to which Ireland or any EU Member State can assist SMEs in public procurement is bounded by EC Procurement Directives guaranteeing free and fair competition. In this way, the policy and regulatory regime in Ireland as it concerns SMEs and public sector tendering is almost identical to that which obtains throughout the EU. The coercive and normative power of the European Commission has made it so that public procurement systems in EU Member States are becoming isomorphic with one another. Excepting preference programmes, the procurement policy environment in Ireland also resembles that of developed economies outside the EU. In essence, Irish policy efforts to facilitate SMEs in public contract competitions are comparable to other developed economies, especially EU Member States. This is crucial as it means that the findings to emerge from this study have relevance beyond the Irish context.

Research informants

SMEs are the research informants in this study. As a corollary, SME-friendly policy is rendered through SMEs' awareness and perceptions of the specific actions public buyers are taking to create a 'level playing field', rather than the prevalence of the measures *per se.* The selection of SMEs is apposite given their under-utilisation as informants in procurement research compared to public buyers (Murray, 2009). As the intended beneficiaries of these policies, it is important that their experiences are voiced and put on record. Like comparable studies in the field (Flynn and Davis, 2015; Murray, 2011), self-reporting was the preferred method for data collection. It has the advantage of being resource efficient and it guarantees respondent anonymity. Self-reporting does come with certain caveats, including the possibility of social desirability bias and inaccurate answering. That said, Chan's (2009) comprehensive review of the evidence on self-reporting in surveys concluded that it is not inherently flawed or that the criticisms made of it do not equally apply to ostensibly objective

data collection techniques. Finally, it is important to point out that all data was gathered from respondents at a single point in time. By implication, no claim can be made as to the causative effect of SME-friendly policy on SME behaviour and outcomes in public contract competitions.

Sampling strategy

In January 2015 what amounted to a population-wide survey of firms competing for business with the Irish public sector was undertaken. Contact was made via email with the 60,000[2] firms registered on *e-Tenders* - the Irish government-managed website which advertises public contracts. Almost all firms interested in contracting with the Irish public sector are registered on *e-Tenders*. This can be explained as follows. First, registration on *e-Tenders* is essential if firms want to access tender-related documentation and submit bids electronically. Second, all public sector contracts in Ireland subject to open competition are listed on *e-Tenders*. The net effect is that the majority of firms involved in the public procurement market in Ireland are registered on *e-Tenders.* Admittedly, *e-Tenders* is unlikely to cover the entire population as a small minority of firms, particularly micro-enterprises and sole traders, can service low value public contracts without having to register on it. As a result, these types of firms may be under-represented in the respondent cohort. This proviso has to be borne in mind when interpreting the results and generalising to the SME supplier population. Prior to its distribution, and in line with recommended practice (Dillman, 2007), the survey instrument was pre-tested with ten SMEs and reviewed by officials in Ireland's Office of Government Procurement (OGP) for its user-friendliness and accuracy. Based on their advice, some minor adjustments were made to question phrasing and response choices.

Data screening

The survey period lasted 14 days. A total of 4743 responses were received, giving a response rate of 8 per cent. The data was screened prior to conducting inferential statistical tests. Given the SME-focus of the study, large firms – firms employing 250 or more employees – had to be removed from the dataset. This resulted in the elimination of 530 cases. Thereafter, substantially incomplete responses were identified. A response was taken to be incomplete if it did not progress beyond the

[2] Source: Office of Government Procurement (OGP), Ireland.

first e-page of the questionnaire. This resulted in the elimination of a further 1458 cases. The final number of usable SME responses is 2755. To test for representativeness we compared the characteristics of early and late respondents[3] (Armstrong and Overton, 1977). Comparisons were made across firm size, age, revenue, tendering experience, human resource availability for tendering and frequency of tendering. Independent sample t-tests confirmed that there is no statistically significant difference between early and late respondents on any of the variables except for age ($p < .05$). This instils confidence that respondent firms are broadly representative of the population sample.

Description of respondents

The profile of respondent SMEs is as follows. Approximately 58 per cent are classed as micro-enterprises, 28 per cent are classed as small enterprises, and 14 per cent are classed as medium-sized enterprises. Just over 62 per cent have been in business for 11 years or more, while the remaining 38 per cent are not older than 10 years. In terms of sector, 52 per cent are in the services sector (professional, consultancy and retail), 19 per cent are in the construction sector, 10 per cent are in the manufacturing sector and the remainder belong to other sectors. SMEs have an average of 12 years tendering experience. The mean number of employees typically involved in compiling a tender is 2.52. Statistical descriptors for SME behaviour and outcomes in tendering reveal that the average number of contracts tendered for in 2014 was 9.10, the average win rate in contract competitions was 26 per cent and public contracts as a percentage of revenue averaged 24 per cent. Lastly, it is worth mentioning that there are statistically significant differences in the reported experience of SME-friendly policy among sector and size groups ($p < .01$). SMEs in manufacturing and all other sectors report higher scores than firms in services and construction: 8.72 and 8.56 versus 7.73 and 7.63 respectively, on the 0-16 scale. Firm size and experience of SME-friendly policy are also correlated, with larger SMEs reporting higher scores. All statistical descriptors are provided in Table III.

[3] The early respondent group comprised the first 100 firms to submit their questionnaires. Their responses were received within 3 hours of the survey's distribution. The late respondent group was made up of the final 100 firms to submit their questionnaire. Their responses were received 10 days after contact was initially made, and then only after a reminder notification had been issued.

Results

This section presents the results of the study. Each of the three hypothesised relationships is tested using step-wise regression. The five control variables are entered in the first step. The variable that captures firms' experience of SME-friendly policy is entered second. This is done in respect of frequency of tendering (Model 1), success rate in public contract competitions (Model 2) and commercial orientation towards the public sector (Model 3). The output from these three models is given below. Table IV contains the standardised coefficients (β), standard errors and significance values for the independent and control variables in the case of Models 1-3. Before proceeding, it is important to point out that there is no evidence of multi-collinearity in the dataset. Proof of this, the highest observed Value Inflation Factor (VIF) value is 1.50[4].

The first variable tested is frequency of tendering, measured as the number of contracts tendered for by SMEs throughout 2014 (Model 1). H1 states that firms' experience of SME-friendly policy is positively associated with frequency of tendering. At the first step, the controls account for 21 per cent of the variance. Firm size, tendering experience and human resource availability are positively related to frequency of tendering. Sector is also important. The construction sector is significant and positive while the manufacturing sector is significant and negative. Firm age is not significant. At the second step, the SME-friendly policy variable is entered into the model. It is not found to be significant in respect of frequency of tendering ($p = .62$) and even has a negative β value. This means that H1 is rejected.

The second variable tested is success rate in public contract competitions, measured as SMEs' contract win-ratio for 2014 (Model 2). H2 states that firms' experience of SME-friendly policy is positively associated with success rate. At the first step, firm size, tendering experience and human resource availability are significant. The construction sector is again significant, although this time the relationship is negative. Firm age is not significant. Together the controls account for 3 per cent of the variance in this outcome variable. At the second step, the SME-friendly policy variable is entered into the model. It emerges as significant ($p < .01$). Indicated by a β value of .17, its effect surpasses that of any of the control variables. The variance explained or

[4] VIF scores over 10 point to a multicollinearity problem.

Adjusted R^2 increases from 3 per cent at step one to 6 per cent at step two. These findings lead to acceptance of H2.

The third and final outcome variable tested concerns SMEs' commercial orientation towards the public sector, measured as the proportion of revenue attributable to public contracting in 2014 (Model 3). H3 states that firms' experience of SME-friendly policy is positively associated with commercial orientation towards the public sector. At step one, tendering experience and human resource availability are positively related to commercial orientation. Sector is also relevant. The relationship is significant and positive in the case of the construction sector and significant and negative in the case of the manufacturing. Firm age is significant but negative. Firm size is not significant. At step two, the SME-friendly policy variable is found to be significant ($p < .01$). The magnitude of its effect ($\beta = .11$) is second only to that of tendering experience. Adjusted R^2 increases from 4 per cent to 5 per cent resulting from the inclusion of this variable in Model 3. On the basis of the above H3 is accepted.

While not specified in the model, interactions between the three outcome variables are also examined. Analysis shows that frequency of tendering and success rate in contract competitions explain 25 per cent of the variance in commercial orientation towards the public sector market. Both are significant at $p < .01$. The size effect of success rate ($\beta = .37$) is larger than frequency of tendering ($\beta = .29$). The overall inference is that frequency of tendering and success rate in contract competitions are themselves antecedents of a firm's presence in and orientation towards the public sector marketplace.

The findings presented above lead to the following conclusions. Experience of SME-friendly policy is not linked to number of tenders submitted. By contrast, it is associated with success rate in contract competitions and the degree to which SMEs are commercially oriented towards the public sector marketplace. These findings are consistent with the argument that policy interventions create the conditions under which SMEs are more likely to become suppliers to public sector organisations. It also offers some vindication of prevailing SME-friendly policy initiatives. At the same time, the findings point up the limits to what policy measures, at least those that stop short of discriminating in favour of SMEs, can be expected to achieve. SME-friendly policy is clearly not a panacea for the under-representation of small firms in public

procurement and only accounts for a small percentage variation in their success rates and orientation towards the public sector marketplace. For both scholars and practitioners, the findings raise interesting points for debate. These are discussed next.

<Insert Table IV here>

Discussion

Policies to expand SMEs' presence in public procurement are a common feature of contemporary public administration (OECD, 2013). These policies evince similarities in content, with their emphasis on increasing the visibility of opportunities, ensuring relevancy and proportionality in the use of qualification criteria, alleviating the administrative burden of tendering, tackling contract size barriers and addressing information deficits, among other areas. Such trends reflect the fact that SMEs are under-represented as public sector suppliers at national and international level (Cabinet Office, 2013; GHK, 2010; PwC, 2014) and report the same barriers when competing for public contracts irrespective of jurisdiction (Loader, 2013). While academic interest in SME-friendly procurement policy is gaining pace, there remains a paucity of empirical studies. With a few exceptions (Flynn and Davis, 2015; Murray, 2011; Reis and Cabral, 2015), we know very little about the implementation of SME-friendly policies or their effects for firms in practice. Hence, the findings adduced in this study represent a timely and warranted addition to the literature. On the one hand, they afford SME and public procurement scholars a more evidence-informed view of government attempts to re-balance the market for public sector contracts. Equally, they provide some indication of how procurement reform initiatives are being experienced by SMEs as well as their association with indicators of firm behaviour and performance.

A central objective of procurement policy is to maximise SME participation in contract competitions (European Commission, 2008). Within this context it is notable that our findings do not return any support for the hypothesised relationship between experience of SME-friendly policy and frequency of tendering. Contrary to expectations, firms who report high incidence of SME-friendly policy do not, on average, tender more frequently than firms who report low incidence. Considering that policy is intended to remove access and procedural obstacles believed to stymie

SMEs' willingness and ability to compete (Kidalov and Snider, 2011), this finding is surprising. One explanation is that SMEs are exhibiting a delayed, 'wait-and-see' response to the roll-out of policy designed to benefit them. Extra time might be needed before they feel confident of diverting more of their already scarce resources to pursuing opportunities with public sector organisations. Another is that policy measures are less impactful than is commonly assumed in stimulating SMEs to tender. On their own they might not be enough to alter SMEs' tendering intentions, as resource limitations and/or commitments to private sector customers remain deterministic of organisational behaviour. Research design issues may also be playing a part. The approach taken in this study is to treat SME-friendly policy as a composite variable comprising 16 individual measures. The nuances of SME-friendly policy and its relationship to tendering frequency are possibly obscured as a result.

While experience of SME-friendly policy is not linked with tendering frequency, it is linked with two other outcomes: success rates and commercial orientation towards the public sector. In respect of the first of these, the findings are consistent with the position that providing SMEs with maximum practical opportunity to compete increases their likelihood of success. Given the chance to compete, SMEs possess the niche skills, customer responsiveness, operational flexibility and ability to offer value for money over the long-term to make themselves contenders, even when up against incumbents (Loader, 2007; Ngugi *et al*., 2010; Woldesenbat *et al*., 2011). SMEs themselves have argued this very point, stating their desire only to be able to compete on equal terms with large firms (Glover, 2008). In respect of the second variable, the findings imply that procurement reform initiatives are associated with SMEs establishing a commercial presence in the public sector marketplace. Admittedly, the variance explained by SME-friendly policy in respect of these two outcomes is relatively small: 6 per cent in the case of success rates and 5 per cent in the case of commercial orientation, after controlling for organisation characteristics. Nonetheless, the findings demonstrate that the extent to which firms experience SME-friendly policy measures is statistically significant in accounting for their success and commercial involvement in public procurement.

Apart from its scholarly contribution, this study offers important lessons for practice. In the first instance, it highlights the need for a concerted effort on the part of public sector organisations and their procurement personnel to implement SME-friendly

policy. Based on the reported experience of firms, policy has only partially translated into practice. Notably, this assessment is broadly consistent with public buyers' self-reported behaviour, recently documented by Flynn and Davis (2015). It reveals the selective implementation of SME-friendly policy recommendations on their part. Yet as policy implementers, the onus is on public buyers to fully translate SME-friendly policy recommendations into everyday procurement practice and ensure that it becomes part of the institutional 'rules of the game'. What is more, they must be seen to be doing so by the business community. The net effect should be a public procurement environment in which SMEs are in a position to win more contracts and feel incentivised to shift more of their commercial operation into supplying public sector organisations. SMEs and their representative associations need to be doing everything in their power to effect the realisation of policy. It is in SMEs' own interests to maintain familiarity with the details of policy initiatives – a case of knowing their rights – and subsequently holding public sector organisations to account over the implementation of these same initiatives.

Limitations

The contribution of this study notwithstanding, it does have limitations. First, the study was carried out in a single country. Replicating the study in other jurisdictions is recommended as it would allow for direct comparisons to be made on SME-friendly procurement policy and its associated outcomes for firms. Second, SME-friendly policy was tested four-and-a-half years after its initial adoption. While this would seem an adequate interval period, it may be that more time is required before its enabling effects fully filter through to everyday procurement practices and, thence, to SME behaviour and success (Flynn and Davis, 2015). Therefore, re-testing policy impacts in the coming years and matching the results with those presented here is advised. Third, our cross-sectional research design rules out the possibility of claiming causal effects between firms' experience of policy and their tendering frequency, success rates and orientation towards the public sector marketplace. Future research should consider initiating longitudinal research designs in which a sample of SMEs active in public procurement is surveyed periodically. Fourth, SME-friendly policy is understood here from the supplier perspective only. It would be instructive to examine the relationship between policy implementation and SME outcomes using public buyers as informants. Finally, this study does not explicate the precise mechanisms

through which policy shapes firms' attitudes and behaviours. The use of qualitative research designs, including interviews, observation and document analysis, can address this shortcoming. Previous case study work by Loader (2005, 2007) indicates the possibilities in this regard.

Conclusion

This study sheds new light on SME-friendly procurement policy in practice. Its findings reveal that experience of SME-friendly measures is not associated with increased frequency of tendering activity, but is associated with superior success rates in contract competitions and a greater commercial orientation towards the public sector. Importantly, exposure to SME-friendly measures is more powerful than organisation characteristics, including firm size, sector and tendering experience, in accounting for variance in success rates. The study represents among the few systematic investigations into SME-friendly policy in a public procurement setting. For a variety of reasons, interest surrounding these policies has not been matched by evidence on their effects. In this sense, the study begins to fill a knowledge gap and brings an element of scientific rigour to the debate that was previously missing. While lending empirical weight to the case for SME-friendly policies, the findings signal to policy makers, enterprise agencies and business representative groups that further action will be required if the under-representation of SMEs as public sector suppliers is to be reversed. As a starting point, it is imperative that the policy-practice divide currently characterising SME-friendly procurement is closed and that small firms receive the full benefit of policies designed to assist them.

References

Anglund, S. (1999), "Policy feedback: the comparison effect and small business procurement policy", *Policy Studies Journal,* Vol. 27 No. 1, pp. 11-27.

Armstrong, J.S. and Overton, T.S. (1977), "Estimating nonresponse bias in mail surveys", *Journal of Marketing Research,* Vol. XIV August, pp. 396-402.

Bennett, R. (2008), "SME policy support in Britain since the 1990s: What have we learnt?" *Environment and Planning C: Government and Policy,* Vol. 26 No. 2, pp. 375-397.

Cabinet Office (2013), "Making government business more accessible to SMEs: two years on", available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/231994/SME_Two_Year_On_Report.pdf (accessed 14 January 2015).

Cabras, I. (2011), "Mapping the spatial patterns of public procurement: a case study from a peripheral local authority in Northern England", *International Journal of Public Sector Management,* Vol. 24 No. 3, pp. 187-205.

Centre for Economic and Business Research (2013), "UK e-procurement trends", available at: http://gatewit.com/en/resources/registo.php?id=45 (accessed 21 January 2015).

Chan, D. (2009), "So why ask me? Are self-report data really that bad?", in Lance, C.E. and Vandenberg, R.J. (Eds.) *Statistical and Methodological Myths and Urban Legends,* Routledge, New York, NY, pp. 309-336.

Department for Business Innovation and Skills (2013), "Small business survey 2012: SME employers", available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/193555/bis-13-p74-small-business-survey-2012-sme-employers.pdf (accessed 03 December 2014).

Department of Finance (2010), "Facilitating SME participation in public procurement", available at: http://www.etenders.gov.ie/policyandlegislation (accessed 20 May 2012).

Dillman, D.A. (2007), "*Mail and Internet Surveys: The Tailored Design Method*", 2nd ed., Wiley, New Jersey, NJ.

Dimitri, N. (2013), "Best value for money in procurement", *Journal of Public Procurement*, Vol. 13 No. 2, pp. 149-175.

Erridge, A. and McIlroy, J. (2002), "Public procurement and supply management strategies", *Public Policy and Administration*, Vol. 17 No.1, pp. 52-71.

European Commission (2008), "European code of best practices facilitating access by SMEs to public procurement contracts", available at: http://ec.europa.eu/internal_market/publicprocurement/docs/sme_code_of_best_practices_en.pdf (accessed 04 June 2012)

Fee, R. Erridge, A. and Hennigan, S. (2002), "SMEs and government purchasing in Northern Ireland", *European Business Review*, Vol. 14 No. 5, pp. 326-334.

Flynn, A. Davis, P. McKevitt, D. and McEvoy, E. (2013), "Mapping public procurement in Ireland", *Public Procurement Law Review*, Vol. 2, pp. 74-95.

Flynn, A. McKevitt, D. and Davis, P. (2015), "The impact of size on SME public sector tendering", *International Small Business Journal*, Vol. 33 No. 4, pp. 443-461.

Flynn, A. and Davis, P. (2015), "The policy-practice divide and SME-friendly procurement", *Enterprise and Planning C: Government and Policy,* available from doi 10.1177/0263774X15614667.

Flynn, A. and Davis, P. (2016), "Investigating the effect of tendering capabilities on SME activity and performance in public contract competitions", *International Small Business Journal,* available from doi 10.1177/0266242616630035.

Georghiou, L. Edler, J. Uyarra, E. and Yeow, J. (2014), "Policy instruments for public procurement of innovation: choice, design and assessment", *Technological Forecasting and Social Change*, Vol. 86 July, pp. 1-12.

GHK (2010), "Evaluation of SMEs' access to public procurement markets in the EU", available at: http://ec.europa.eu/smart-regulation/evaluation/search/download.do;jsessionid=lCF8TT1Nfy2MJwBDWQC1Jx8g8rXtjwDlhK1vqn8M1f32kYbpfBXQ!1601440011?documentId=4289 (accessed 15 July 2012)

Glover, A. (2008), "Accelerating the SME economic engine through transparent, simple and strategic procurement", available at: http://webarchive.nationalarchives.gov.uk/+/http:/www.hm-treasury.gov.uk/d/pbr08_economicengine_2390.pdf (accessed 08 August 2012)

Hoejmose, S.U. Grosvold, J. and Millington, A. (2013), "The effect of institutional pressure on cooperative and coercive 'green' supply chain practices", *Journal of Purchasing and Supply Management*, Vol. 20 No. 4, pp. 215-224.

Karjalainen, K. and Kemppainen, K. (2008), "The involvement of small and medium-sized enterprises in public procurement: impact of resource perceptions, electronic systems and enterprise size", *Journal of Purchasing and Supply Management*, Vol. 14 No. 4, pp. 230-40.

Kidalov, M. and Snider, K. (2011), "U.S. and European public procurement policies for small and medium sized enterprises (SME): a comparative perspective", *Business and Politics*, Vol. 13 No. 4, pp. 1-41.

Loader, K. (2005), "Supporting SMEs through government purchasing activity", *The International Journal of Entrepreneurship and Innovation*, Vol. 6 No. 1, pp. 17-26.
Loader, K. (2007), "The challenge of competitive procurement: value for money versus small business support", *Public Money and Management*, Vol. 27 No. 5, pp. 307-314.

Loader, K. (2013), "Is public procurement a successful small business policy support? A review of the evidence", *Environment and Planning C: Government and Policy*, Vol. 31 No. 1, pp. 39-55.

Matlay, H. (2000), "Organisational learning in small learning organisations: an empirical overview", *Education + Training*, Vol. 42, No. 4/5, pp. 202-211.

Morrissey, B. and Pittaway, L. (2004), "A study of procurement behaviour in small firms", *Journal of Small Business and Enterprise Development*, Vol. 11 No. 2, pp. 254-262.

Murray, G. (2009), "Improving the validity of public procurement research", *International Journal of Public Sector Management*, Vol. 22 No. 2, pp. 91-103.

Murray, G. (2011), "Third sector commissioning and English local government procurement", *Public Money and Management*, Vol. 31 No. 4, pp. 279-286.

Murray, G. (2012), "Revolutionizing or recycling public procurement policy in the UK?" *Public Money and Management*, Vol. 32 No. 3, pp. 165-167.

NERA Economic Consulting (2005), "A study of the benefits of public sector procurement from small businesses", available at: http://db.kosbi.re.kr/download.asp?uri=/attach_files/A10/A101081.pdf (accessed 11 December 2014).

Ngugi, I.K. Johnsen, R.E. and Erdelyi, P. (2010), "Relational capabilities for value co-creation and innovation in SMEs", *Journal of Small Business and Enterprise Development*, Vol. 17 No. 2, pp. 260-278.

Nicholas, C. and Fruhmann, M. (2014), "Small and medium-sized enterprises policies in public procurement: time for a rethink?" *Journal of Public Procurement*, Vol. 14 No. 3, pp. 328-360.

OECD (2013), "Government at a glance 2013: procurement data", available at: http://www.oecd-ilibrary.org/docserver/download/4213201e.pdf?expires=1457615797&id=id&accname=guest&checksum=08034536CF468AD5353E82D5C2983E33 (accessed 09 March 2015).

Office for National Statistics (2012), "E-commerce and ICT activity, 2011", available at: http://www.sfa.ie/Sectors/SF/SFA.nsf/vPages/News~sfa-concerns-over-access-to-public-contracts-06-05-2013?OpenDocument (accessed 18 January 2015).

Pickernell, D. Kay, A. Packham, G. and Miller, C. (2011), "Competing agendas in public procurement: an empirical analysis of opportunities and limits in the UK for SMEs", *Environment and Planning C: Government and Policy*, Vol. 29 No. 4, pp. 641-58.

Pickernell, D. Senyard, D. Jones, P. Packham, G. and Ramsey, E. (2013a), "New and young firms: entrepreneurship policy and the role of government – evidence from the

Federation of Small Businesses survey", *Journal of Small Business and Enterprise Development*, Vol. 29 No. 2, pp. 358-382.

Pickernell, D. Jones, P. Packham, G. Brychan, T. White, G. and Willis, R. (2013b), "E-commerce trading activity and the SME sector: an FSB perspective", *Journal of Small Business and Enterprise Development*, Vol. 20 No. 4, pp. 866-888.

Preuss, L. (2011), "On the contribution of public procurement to entrepreneurship and small business policy", *Entrepreneurship and Regional Development: An International Journal*, Vol. 23 No. 9-10, pp. 787-814.

Purchase, S. Goh, T. and Dooley, K. (2009), "Supplier perceived value: differences between business-to-business and business-to-government relationships", *Journal of Purchasing and Supply Management*, Vol. 15 No. 1, pp. 3-11.

PwC (2014) "SMEs' access to public procurement markets and aggregation of demand in the EU", available at: http://ec.europa.eu/internal_market/publicprocurement/docs/modernising_rules/smes-access-and-aggregation-of-demand_en.pdf (accessed 10 December 2015).

Ramsden, M. and Bennett, R.J. (2005), "The benefits of external support to SMEs", *Journal of Small Business and Enterprise Development*, Vol. 12. No. 2, pp. 227-243.

Reijonen, H. Tammi, T. and Saastamoinen, J. (2014), "SMEs and public sector procurement: does entrepreneurial orientation make a difference?" *International Small Business Journal,* available from doi 0266242614556661.

Reis, P.R.C. and Cabral, S. (2015), "Public procurement strategy: the impacts of a preference programme for small and micro businesses", *Public Money and Management*, Vol. 32 No. 2, pp. 103-110.

Ringwald, K. Lee, C. Williams, H. Cahill, D. Clifford, G. and Evans, C. (2009), "Barriers to procurement opportunity research", available at: http://icps.bangor.ac.uk/brochures/BarriersToProcurement.pdf (accessed 04 April 2013).

Snider, K.F. and Rendon, R.G. (2008), "Public procurement policy: implications for theory and practice", *Journal of Public Procurement*, Vol. 8 No. 3, pp. 310-333.

Sorte Junior, W.F. (2013), "Assessing the efficiency of centralised public procurement in the Brazilian ICT sector", *International Journal of Procurement Management*, Vol. 6 No. 1, pp. 58-75.

Sorte Junior, W.F. (2016), "Nurturing domestic firms through public procurement: a comparison between Brazil and Japan", *Public Policy and Administration*, Vol. 31 No. 1, pp. 29-50.

Temponi, C. and Cui, W. (2008), "Factors impacting participation of Hispanic small businesses in government contracting in the USA", *Journal of Small Business and Enterprise Development*, Vol. 15 No. 3, pp. 504-526.

Woldesenbet, K. Ram, M. and Jones, T. (2011), “Supplying large firms: the role of entrepreneurial and dynamic capabilities in small businesses”, *International Small Business Journal*, Vol. 30 No. 5, pp. 493-512.

Table I. SME-friendly policy measures (x 16) and firms' self-reported experience of them

Is it your experience that public buyers do the following?	Yes%	No%
Make contract opportunities visible		
1. Advertise contracts for supplies and general services with an estimated value of €25,000 or more on *e-Tenders*	61	39
2. Communicate long-term purchasing plans to the market by publishing prior information notices (PINs)	45	55
Alleviate the administrative burden of tendering		
3. Allow applicants to self-declare their financial capacity at the initial phase of the competition	57	43
4. Allow applicants to self-declare their insurance cover at the initial phase of the competition	65	35
5. Use standard documentation and tender templates	67	33
6. Promote the online submission of tenders as the norm	72	28
Tackle contract size barriers		
7. Divide contracts into lots where appropriate	56	44
8. Show openness to consortium bids by, for example, drawing attention to this possibility in the contract notice	41	59
9. Ensure that the terms of framework agreements facilitate the inclusion of small firms	34	66
Ensure proportionality in the use of qualification criteria		
10. Do not set company turnover requirements at more than twice the estimated value for routine contracts	50	50
11. Only require types and levels of insurance that are proportionate and reasonable in the context of the contract	62	38
12. Show flexibility over the type of proof of financial capacity accepted	39	61
Display openness to new suppliers and supply solutions		
13. Undertake market analysis prior to tendering in order to better understand the supply marketplace and what it can offer	28	72
14. Indicate where they are prepared to accept reasonable variants to the specifications of the goods/services sought	38	62
Address information asymmetries		
15. Provide written feedback as a matter of good practice	38	62
16. Publish all contract award notices over €25,000 on *e-Tenders*	50	50

Table II. Score ranges for respondents on the SME-friendly policy scale

Score range	Label	Respondent %
0	No experience of SME-friendly policy	2.3
1-4	Low experience of SME-friendly policy	18.2
5-8	Low-moderate experience of SME-friendly policy	36
9-12	Moderate-high experience of SME-friendly policy	28.9
13-15	High experience of SME-friendly policy	10.9
16	Complete experience of SME-friendly policy	3.7

Table III. Dependent and control variables

Variable	Operationalisation	Measurement	Respondent characteristics	Mean score: SME-friendly policy 0-16 scale
Dependents				
Frequency of tendering	How many public sector contracts did your firm tender for in 2014?	1-100	Mean: 9.10 contracts Std. dev.: 15.57	-
Success rate in public contract competitions	What percentage of public sector contracts tendered for in 2014 did your firm succeed in winning?	1-100%	Mean: 26 per cent Std. dev.: 31.57	-
Commercial orientation towards public sector	What percentage of your firm's 2014 revenue came from public sector contracts?	1-100%	Mean: 24.72 per cent Std. dev.: 30.62	-
Controls				
Firm size	How many employees are there in your firm?	1-9 10-49 50-249	58.2 per cent 28.1 per cent 13.7 per cent	7.38 8.64 9.02
Firm age	How many years has your firm been trading?	0-5 6-10 11-20 21+	20.7 per cent 16.9 per cent 27.2 per cent 35.2 per cent	7.71 7.91 7.87 8.21
Sector	Which sector does your firm operate in?	Manufacturing Services Construction Other	9.7 per cent 52.8 per cent 19.3 per cent 18.2 per cent	8.72 7.73 7.63 8.56
Tendering experience	How many years' experience does your firm have in tendering for public sector contracts?	1-100	12.17 years Std. dev.: 12.56	-

Human resource availability for tendering	How many employees are ordinarily involved in preparing a tender on behalf of your firm?	1-20	2.52 employees Std. dev.: 1.98	-

Table IV. Model testing

	Frequency of tendering		**Success-rate in competitions**		**Commercial orientation**	
	Model 1a	Model 1b	Model 2a	Model2b	Model 3a	Model 3b
Firm size	.24*** (.47)	.24*** (.27)	.06** (1.07)	.04 (1.06)	.03 (1.03)	.01 (1.03)
Firm age	-.01 (.29)	-.01 (.29)	-.01 (.65)	.00 (.65)	-.06** (.63)	-.06** (.63)
Sector: manuf.[a]	-.04** (.97)	-.04** (.97)	.04 (2.22)	.03 (2.20)	-.05** (2.12)	-.06*** (2.11)
Sector: construction[a]	.14*** (.76)	.14*** (.76)	-.07*** (1.71)	-.07*** (1.69)	.05** (1.66)	.05** (1.65)
Sector: all other[a]	.02 (.76)	.01 (.77)	.01 (1.74)	.00 (1.72)	.00 (1.67)	-.01 (1.67)
Tendering experience	.26*** (.03)	.26*** (.02)	.09*** (.06)	.08*** (.06)	.18*** (.06)	.18*** (.06)
Human resource availability for tendering	.07*** (.17)	.07*** (.17)	.06** (.38)	.05** (.38)	.07*** (.37)	.06** (.37)
SME-friendly procurement policy		-.01 (.07)		.17*** (.16)		.11*** (.16)
n	2430[b]	2430	2377[b]	2377	2386[b]	2386
Constant	-4.58*** (.873)	-4.34*** (.99)	18.47*** (1.99)	9.61*** (2.22)	19.62*** (1.91)	14.17*** (2.17)
F	91.83	80.36	11.24	18.78	15.87	17.48
Adjusted R^2	.21	.21	.03	.06	.04	.05

***p <.01; **p <.05. The standard error is in parentheses.

[a] Sector: services is the referent category.

[b] Does not equal group total, 2755, due to missing values.